UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 7,632,858 B2
APPLICATION NO. : 10/712456
DATED : December 15, 2009
INVENTOR(S) : Lawrence G. Hamann et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

IN THE TITLE PAGES:

In Item (56) References Cited, please remove from the list of OTHER PUBLICATIONS the following duplicate references beginning on page 3, first column, line 35, through page 3, second column, line 11:

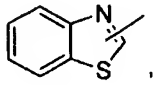
—Beyler et al., J. Am. Med. W. Assoc., 23(8):708-721 1968.—;
—Boeijen et al., Bioorg. Med. Chem. Lett. 8:2375-2380 1998.—;
—Boris et al., Steroids, 15:61-71 1970.—;
—Bundgaard, "Design of Prodrugs", Elsevier Science Publishers 1985, tabe of contents.—;
—Bundgaard, "Design and Application of Prodrugs", Harwood Academic Publishers 1991, pp. 113-191.—;
—Chalepakis et al., Cell, 53:371-382 1988.—;
—Delaisi et al., J. Steroid Biochem. Molec. Biol. 41(3-8)773-7 1992.—;
—Dyatkin Tet Lett 38(12):2065-6 1997.—;
—Edwards et al., Bioorg. Med. Chem. Lett 9: 1003-8 1999.—;
—Gori et al., Boll.-Soc. Ital. Boil. Sper. 42:1596-1599 1996.—;
—Gori et al., Boll.-Soc. Ital. Boil. Sper. 42:1600-1601 1996.—;
—Hamann et al., J. Med. Chem. 42(2):210-212 1998.—;
—Heiser, in Methods in Mol. Biol. 130:117-134 2000.—;
—Hempstock et al., J. Med. Food 2(3-4):243-246 1999.—;
—Hershberger et al., P.S.E.B.M. 83:175-180 1953.—;
—Hiroaka et al., Cancer Res., 47:6560-6564 1987.—;
—Imakura et al., Chem. Pharm. Bull. 40(7): 1691-1696 1992.—;
—Iseki, K. et al., Tet. 53(10) 3513-26 1997.—;
—Issartel et al., 1996, CAS 125:316198.—;
—Johannsson et al., J. Clin. Endocr. Met. 82(3):727-734 1997.—;
—Kakigami et al., Chem. Pharm. Bull. 46(1):42-52 1998.—;
—Lalezari et al., J Het Chem 20(2) 483-485 (1983).—;
—Matsuki et al., Chem. Pharm. Bull. 42(1):9-18 1994.—;
—Milata et al., Org. Prep. Proc. Int'l, 25(6):703-704 1993.—;
—Minesita et al., Cancer Research 25:1168-1175 1965.—;
—Navone et al., Clin. Canc. Res. 3:2493-2500 1997.—;
—Okuda et al., J. Urology 145:188-191 1991.—;
—Palovich et al., 2000, CAS 134:25357.—;
—Panouse et al., Ann. Pharm. Franc., 2000:291-302.—;
—Rodbard in Ligand Assay, Masson Publishing USA Inc., 1981, pp. 45-101.—;
—Schuur et al., J. Biol. Chem. 271(12):7043-7051 1996.—;
—Suzuki et al., J. Steroid Chem. Mol. Biol. 37(4):559-567 1990.—;
—Talon et al., Br. J. Pharmacol., 134(7): 1523-31 2001.—;

—Montes de Oca et al., Arkivoc, 390-403 (2003).—;
—Uozumi, Tet Lett 42:407-410 2001.—;
—Uozumi et al., Tet Lett 42:411-414 2001.—;
—Venable, Am. J. Anat. 119:263-270 1966.—; and
—Wermuth et al. In the Practice of Medicinal Chemistry, Academic Press, 1996, pp. 671-696.—.

In Item (56) References Cited, please remove from the list of OTHER PUBLICATIONS the following duplicate references beginning on page 3, second column, line 53, through page 3, second column, line 62:
—U.S. Appl. No. 11/048,439, Filed Feb. 1, 2005, Publ. No. 2005-0187267.—;
—U.S. Appl. No. 11/070,808, Filed Mar. 2, 2005, Publ. No. 2005-0197359.—;
—U.S. Appl. No. 11/931,282, Filed Oct. 31, 2007, Publ. No. 2008-0108649.—;
—U.S. Appl. No. 11/931,395, Filed Oct. 31, 2007, Publ. No. 2008-0103188.—; and
—U.S. Appl. No. 11/931,498, Filed Oct. 31, 2007, Publ. No. 2008-0108691.—.

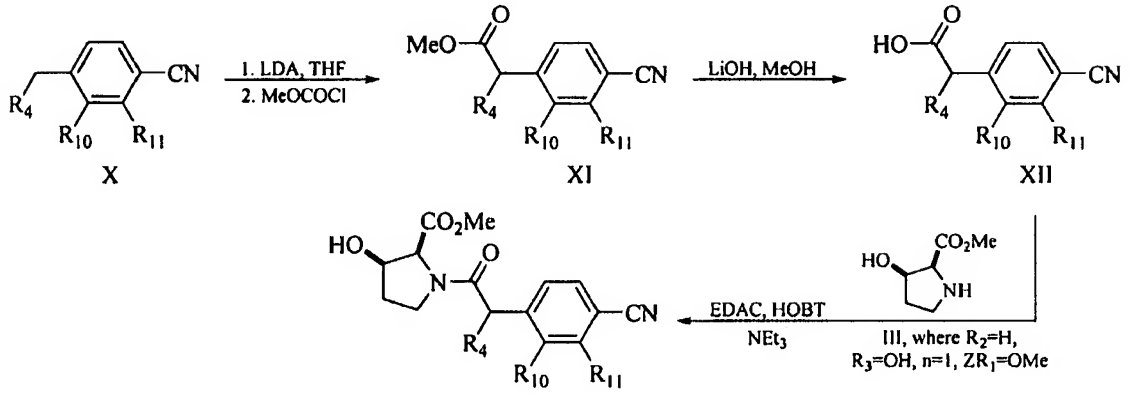
IN THE SPECIFICATION:

In column 8, beginning at line 25, please replace the structure of the eighth heteroaryl group listed with:



;

In column 13, line 10, please replace "V" with --VI--;
In columns 13-14, beginning at line 41, please replace the designator "XI" with --XII-- for the third chemical structure in Scheme V as shown below:



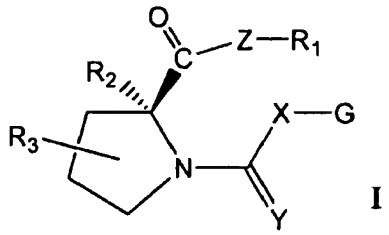
;

In column 20, lines 29-30, please replace "Tibo lone, pro stanoids" with --Tibolone, prostanoids--;
In column 20, line 44, please replace "famesyl" with --farnesyl--;
In column 32, line 2, please replace "(85%),. column" with --(85%), column--;
In column 36, line 14, please replace "mmol):,in" with --mmol) in--;

IN THE CLAIMS:

Please replace Claims 1 and 12 with the following Claims:

1. A compound of formula I



I

or a pharmaceutically acceptable salt thereof,
wherein:

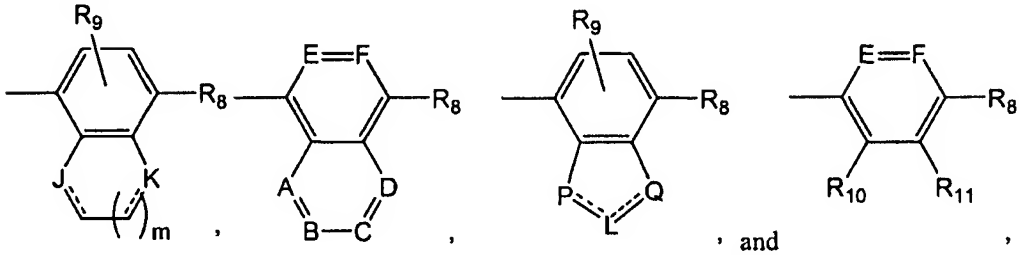
R_1 is selected from the group consisting of alkyl or substituted alkyl, alkenyl or substituted alkenyl, cycloalkyl or substituted cycloalkyl, arylalkyl or substituted arylalkyl, and CH_2OR_4;

R_2 is selected from the group consisting of hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, arylalkyl or substituted arylalkyl, aryl or substituted aryl, heterocycle or substituted heterocycle, heteroaryl or substituted heteroaryl and CH_2OR_4;

R_3 is selected from the group consisting of hydrogen, alkyl or substituted alkyl, CH_2OR_4, OR_2, SR_2, halo, NHR_2, $NHCOR_4$, and $NHCONR_4R_4'$;

R_4 and R_4' for each occurrence are each independently selected from the group consisting of hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, arylalkyl or substituted arylalkyl, aryl or substituted aryl, heterocyclo or substituted heterocyclo and heteroaryl or substituted heteroaryl;

G is selected from among:



wherein:

R_8 is CN;

R_9, R_{10}, and R_{11} are each independently selected from the group consisting of hydrogen (H), NO_2, CN, CF_3, OR_4, CO_2R_4, NR_4R_4', $CONR_4R_4'$, CH_2OR_4, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, arylalkyl or substituted arylalkyl, aryl or substituted aryl, and heteroaryl or substituted heteroaryl;

A to F each independently is selected from among N and CR_1;

J, K, L, P, and Q each independently is selected from among NR_{12}, O, S, SO, SO_2 or $CR_{12}R_{12}'$;

R_{12} and R_{12}' in each functional group are each independently selected from a bond or R_1;

m is an integer of 0 or 1;

X is a linking group selected from the group consisting of NR_4 and CHR_4;

Y is selected from the group consisting of O, NR_4, NOR_4, S and CH_2; and

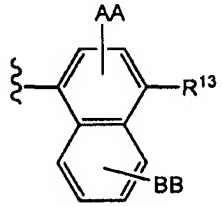
Z is –O– or NR_4;

with the following provisos:

(a) when Y is NOR_4, R_4 is not hydrogen;

(b) when R_1 is methyl,
X is NH, and
Y is O or S, then
Z is not O;

(c) when (i) R_1 is methyl,
(ii) X is NH,
(iii) Y is NR_4,
(iv) R_4 is selected from the group consisting of hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, cycloalkyl or substituted cycloalkyl, arylalkyl or substituted arylalkyl, aryl or substituted aryl, and heteroaryl or substituted heteroaryl, and
(v) G has the following structure:



wherein:

R_{13} is selected from the group consisting of hydrogen, cyano (-CN), nitro (-NO_2), halo, heterocyclo, OR_{14}, CO_2R_{15}, $CONHR_{15}$, COR_{15}, $S(O)_pR_{15}$, $SO_2NR_{15}R_{15}'$, $NHCOR_{15}$ and $NHSO_2R_{15}$;

R_{14} in each functional group is independently selected from the group consisting of hydrogen, alkyl or substituted alkyl, CHF_2, CF_3 and COR_{15};

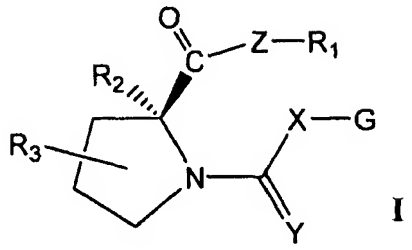
R_{15} and R_{15}' in each functional group are each independently selected from the group consisting of hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, heterocycloalkyl or substituted heterocycloalkyl, arylalkyl or substituted arylalkyl, aryl or substituted aryl, heteroaryl or substituted heteroaryl and -CN;

AA and BB each independently is selected from the group consisting of hydrogen, halo, cyano (-CN), nitro (-NO_2), alkyl or substituted alkyl and OR_{14}; and

P is an integer from 0 to 2,

then Z is not O.

12. A compound of formula I



I

or a pharmaceutically acceptable salt thereof,

wherein:

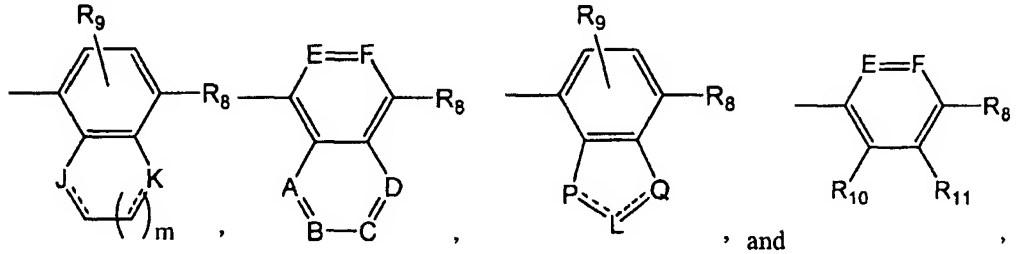
R_1 is selected from the group consisting of hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, cycloalkyl or substituted cycloalkyl, arylalkyl or substituted arylalkyl, and CH_2OR_4;

R_2 is selected from the group consisting of hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, arylalkyl or substituted arylalkyl, aryl or substituted aryl, heterocyclo or substituted heterocyclo, heteroaryl or substituted heteroaryl and CH_2OR_4;

R_3 is selected from the group consisting of alkyl or substituted alkyl, and CH_2OR_4;

R_4 and R_4' for each occurrence are each independently selected from the group consisting of hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, arylalkyl or substituted arylalkyl, aryl or substituted aryl, heterocyclo or substituted heterocyclo and heteroaryl or substituted heteroaryl;

G is selected from the group consisting of:



, , , and ,

wherein:

R_8 is CN;

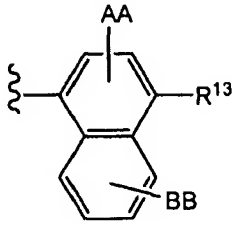
R_9, R_{10}, and R_{11} are each independently selected from the group consisting of hydrogen (H), NO_2, CN, CF_3, OR_4, CO_2R_4, NR_4R_4', $CONR_4R_4'$, CH_2OR_4, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, arylalkyl or substituted arylalkyl, aryl or substituted aryl, and heteroaryl or substituted heteroaryl;

A to F each independently is selected from among N and CR_1;

J, K, L, P, and Q each independently is selected from among NR_{12}, O, S, SO, SO_2 or $CR_{12}R_{12}'$;

R_{12} and R_{12}' in each functional group are each independently selected from a bond or R_1;
m is an integer of 0 or 1;
X is a linking group selected from the group consisting of NR_4 and CHR_4;
Y is selected from the group consisting of O, NR_4, NOR_4, S and CH_2; and
Z is –O– or NR_4;
with the following provisos:

(a) when Y is NOR_4, R_4 is not hydrogen;
(b) when R_1 is methyl, X is NH, and Y is O or S, then Z is not O;
(c) when
  (i) R_1 is methyl,
  (ii) X is NH,
  (iii) Y is NR_4,
  (iv) R_4 is selected from the group consisting of hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, cycloalkyl or substituted cycloalkyl, arylalkyl or substituted arylalkyl, aryl or substituted aryl, and heteroaryl or substituted heteroaryl, and
  (v) G has the following structure:



wherein:

R_{13} is selected from the group consisting of hydrogen, cyano (-CN), nitro ($-NO_2$), halo, heterocyclo, OR_{14}, CO_2R_{15}, $CONHR_{15}$, COR_{15}, $S(O)_pR_{15}$, $SO_2NR_{15}R_{15}'$, $NHCOR_{15}$ and $NHSO_2R_{15}$;

R_{14} in each functional group independently is selected from the group consisting of hydrogen, alkyl or substituted alkyl, CHF_2, CF_3 and COR_{15};

R_{15} and R_{15}' in each functional group are each independently selected from the group consisting of hydrogen, alkyl or substituted alkyl, alkenyl or substituted alkenyl, alkynyl or substituted alkynyl, cycloalkyl or substituted cycloalkyl, heterocycloalkyl or substituted heterocycloalkyl, arylalkyl or substituted arylalkyl, aryl or substituted aryl, heteroaryl or substituted heteroaryl and CN;

AA and BB each independently is selected from the group consisting of hydrogen, halo, cyano (-CN), nitro ($-NO_2$), alkyl or substituted alkyl and OR_{14}; and

p is an integer from 0 to 2,

then Z is not O.

Signed and Sealed this

Sixteenth Day of March, 2010

David J. Kappos

David J. Kappos
Director of the United States Patent and Trademark Office